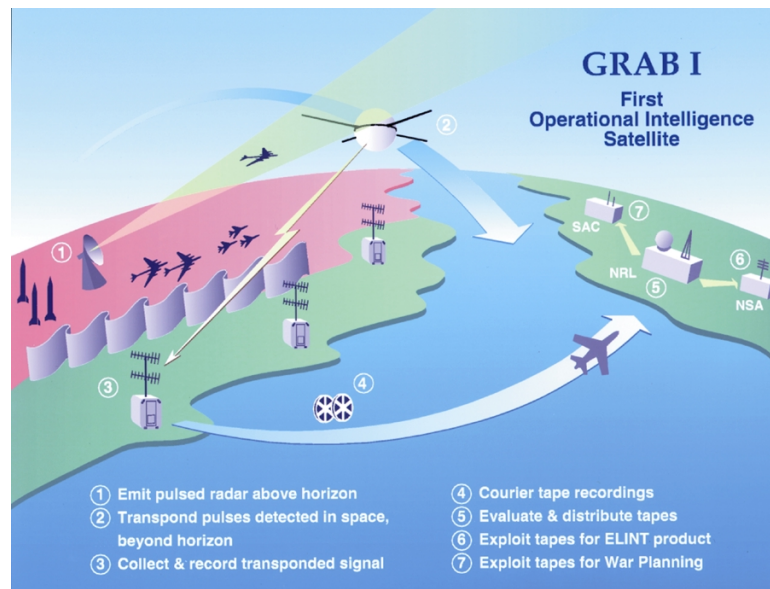


Galactic Radiation and Background (GRAB) *United States' First Surveillance Satellite*



In the evolving atomic era, our Nation's quest for technical intelligence about Soviet military capabilities inspired NRL scientists and technologists to seek the high ground of space. From 500 miles above earth, safe from surface-to-air missiles, the GRAB satellite's simple, circular orbit passed it through the energy beams from Soviet radar whose pulses traveled straight and far beyond the horizon into space.

GRAB's task was to receive each pulse of a radar signal in a certain bandwidth, as sensed by its tiny antennas, and transpond a corresponding signal to collection huts at ground sites within GRAB's field of view. Operators in the huts recorded GRAB's transponded information and couriered it to NRL for evaluation. Subsequently, the National Security Agency and the Strategic Air Command exploited GRAB's data to develop technical intelligence about Soviet radar and to support our Nation's military business of developing effective war plans.

A U.S. Navy electronic intelligence (ELINT) satellite system became operational in July 1960 and was operated until August 1962. The heretofore classified mission was to obtain information on Soviet air defense radars that could not be observed by Air Force and Navy ferret aircraft flying ELINT missions along accessible borders in Europe and the western Pacific.

The ELINT satellite system was proposed by the Naval Research Laboratory in the spring of 1958. In parallel with exploratory development by the NRL, the Office of Naval Intelligence obtained endorsements of Project Tattletale from elements of the executive and legislative branches. With positive recommendations from State, Defense, and CIA, President Eisenhower approved full development on 24 August 1959. By then, the project had been placed under a tight security control system (Canes) with access limited to fewer than 200 officials in the Washington, D.C. area. Development and interagency coordination proceeded as the GRAB (Galactic Radiation and Background) experiment.

After NRL completed development of the GRAB satellite and a network of overseas ground collection sites, a first launch was approved by Eisenhower on 5 May 1960, just four days after a CIA U-2 aircraft was lost on a reconnaissance mission over Soviet territory. The GRAB satellite got a free ride into space on 22 June 1960 with the Navy's third Transit navigation satellite. GRAB carried two electronic payloads, the classified ELINT package and instrumentation to measure solar radiation (SolRad). The SolRad experiment was publicly disclosed in DoD press releases on this and subsequent launches. Four more launches were attempted, and one was successful on 29 June 1961.

The Director of Naval Intelligence exercised overall control. Data recorded on magnetic tape were couriered back to the NRL, then evaluated, duplicated, and forwarded to the NSA at Army Fort Meade, Maryland, and the Strategic Air Command at Offut Air Force Base Omaha, Nebraska, for analysis and processing. SAC's processing was aimed at defining the characteristics and location of air defense equipment to support building the SIOP (single integrated operations plan), a responsibility of the Joint Strategic Targeting Staff at Offut AFB. In searching the tapes for new and unusual signals, NSA found that the Soviets were already operating a radar that supported a capability to destroy ballistic missiles.

Secretary of Defense Robert S. McNamara formally established the NRO on 14 June 1962 by a top secret directive, and the GRAB technology was then transferred to the NRO.

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